

IN THE CLAIMS:

The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (currently amended): An information processing method for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

a first designation step of designating a ~~desired~~ data item for which the exclusive control right is to be set;

a retrieval step of retrieving a data item which belongs to a lower layer ~~with respect to~~ of the ~~designated~~ data item designated in said first designation step on the basis of hierarchical structure information of the plurality of data items;

a determination step of determining whether or not an exclusive control right by another process is set, for each data item retrieved in said retrieval step; ~~and~~

a setting step of setting the exclusive control right for the specific process as to the designated data item and as to a retrieved data item retrieved in said retrieval step and for which it is determined in said determination step that an exclusive control right by another process is not set;

a second designation step of designating a data item for which the exclusive control right is to be released; and

a first release step of releasing the exclusive control right of the specific process as to the data item designated in said second designation step and a data item which belongs to a lower layer of the data item designated in said second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in said second designation step.

2. (original): The method according to claim 1, wherein the data is a scene graph database which is referred to upon generation of computer graphics of a virtual space.

3.- 5. (canceled).

6. (currently amended): The method according to claim [[5]] 1, wherein said first release step includes a step of releasing the exclusive control right by the specific process of data items, for which no exclusive control right by another process is set, of the data items retrieved in said retrieval step.

7. (previously presented): The method according to claim 1, wherein said setting step has a first setting mode for setting the exclusive control right by the specific process when no exclusive control right is set for the designated data item and all data items retrieved in the retrieval step, and a second setting mode for setting the exclusive control right by the specific process for data items for which no exclusive control right is set, of the designated data item and data items retrieved in said retrieval step, and

an exclusive control right setting process is executed in a designated one of the first and second setting modes.

8. (original): The method according to claim 7, wherein a user can designate a desired one of the first and second setting modes.

9. (original): The method according to claim 7, wherein information indicating which of the first and second setting modes is to be applied is assigned to each of the plurality of data items.

10. (previously presented): The method according to claim 1, wherein an upper limit value of exclusive control rights to be set is set for each of the plurality of data items, and

said setting step includes a step of setting the exclusive control rights within the set upper limit value.

11. (currently amended): An information processing apparatus for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

a holding unit for holding hierarchical structure information of the plurality of data items;

a first designation unit for designating a desired data item for which the

exclusive control right is to be set; and

a setting unit for setting the exclusive control right by the specific process to the designated data item and to a data item which is related to the designated data item on the basis of the hierarchical structure information and belongs to a layer lower than the data item designated by said first designation unit,

wherein the setting unit sets the exclusive control right of the specific process only as to data items, to which no exclusive control right is set by another process, including the designated data item and data items which belong to a layer lower than the designated data item;

a second designation unit for designating a data item for which the exclusive control right is to be released; and

a first release unit for releasing the exclusive control right of the specific process as to the data item designated by said second designation unit and a data item which belongs to a lower layer of the data item designated by said second designation unit, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated by said second designation unit.

12. (previously presented): A control program stored in a computer-readable storage medium for making a computer execute an information processing method of claim 1.

13. (original): A storage medium storing a control program for making a computer execute an information processing method of claim 1.

14. (currently amended): An information processing method for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

a first designation step of designating a ~~desired~~ data item for which the exclusive control right is to be set; and

a setting step of setting the exclusive control right by the specific process to the designated data item and to a data item which belongs to a layer lower than the data item designated in the first designation step on the basis of hierarchical structure information of the plurality of data items,

wherein, in the setting step, the exclusive control right of the specific process is set as to only data items, to which no exclusive control right is set by another process, including the designated data item and data items which belong to a layer lower than the designated data item;

a second designation step of designating a data item for which the exclusive control right is to be released; and

a first release step of releasing the exclusive control right of the specific process as to the data item designated in said second designation step and a data item which belongs to a lower layer of the data item designated in said second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in said second designation step.

15. (new): An information processing method for setting an exclusive

control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

a first designation step of designating a data item for which the exclusive control right is to be set;

a retrieval step of retrieving a data item which belongs to a lower layer of the designated data item designated in said first designation step on the basis of hierarchical structure information of the plurality of data items;

a determination step of determining whether or not an exclusive control right by another process is set, for each data item retrieved in said retrieval step;

a setting step of setting the exclusive control right for the specific process as to the designated data item and as to a retrieved data item retrieved in said retrieval step;

a second designation step of designating a data item for which the exclusive control right is to be released; and

a release step of releasing the exclusive control right of the specific process as to the data item designated in said second designation step and a data item which belongs to a lower layer of the data item designated in said second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in said second designation step.

16. (new): An information processing apparatus for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that

can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

- a holding unit for holding hierarchical structure information of the plurality of data items;

- a first designation unit for designating a data item for which the exclusive control right is to be set;

- a setting unit for setting the exclusive control right by the specific process to the designated data item and to a data item which is related to the designated data item on the basis of the hierarchical structure information and belongs to a layer lower than the data item designated by said first designation unit;

- a second designation unit for designating a data item for which the exclusive control right is to be released; and

- a release unit for releasing the exclusive control right of the specific process as to the data item designated by said second designation unit and a data item which belongs to a lower layer of the data item designated by said second designation unit, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated by said second designation unit.

17. (new): An information processing method for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items, comprising:

- a first designation step of designating a data item for which the exclusive

control right is to be set; and

a setting step of setting the exclusive control right by the specific process to the designated data item and to a data item which belongs to a layer lower than the data item designated in the first designation step on the basis of hierarchical structure information of the plurality of data items;

a second designation step of designating a data item for which the exclusive control right is to be released; and

a first release step of releasing the exclusive control right of the specific process as to the data item designated in said second designation step and a data item which belongs to a lower layer of the data item designated in said second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in said second designation step.